NSF SBIR/STTR Internal Program Messaging Packet – Full Text: Conversational Talking Points

WHAT'S THE NSF AND THE NSF SBIR/STTR PROGRAM?

The National Science Foundation (NSF) is an independent federal agency created by Congress in 1950 to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense. A $7 billion budget currently supports fundamental research and education across all fields of science and engineering.

At NSF, Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) is an approximately $170 million program that catalyzes the commercialization of high-risk technological innovations via research and development (R&D) grants to startups and other small businesses.

Grants that go beyond funding: NSF SBIR/STTR grants go beyond R&D funding; recipients receive training in key business areas and gain mentorship from Program Directors who have extensive experience in industry.

NSF SBIR/STTR grants are provided in two phases (Phase I and Phase II).

- During Phase I, SBIR grantees receive up to $150,000 over six months and STTR grantees receive up to $225,000 over 12 months to fund feasibility and proof-of-concept research.
- For Phase II eligibility, applicants must have received a Phase I award. At this stage, funding goes toward prototype and scale-up development and testing. SBIR/STTR Phase II grantees receive up to $750,000 over 24 months.

Mission & Value Statement: The NSF SBIR/STTR program seeks to transform scientific discovery into societal/economic benefit by emphasizing private sector commercialization. To catalyze this, NSF SBIR/STTR increases the incentive and opportunity for startups and small businesses to undertake cutting-edge, high-quality scientific research and development.

IS MY COMPANY A GOOD FIT?

The NSF SBIR/STTR program seeks to assist companies with early-stage technologies that require additional research and development in order to advance commercialization. Answer the questions below to see if your product or service is a good fit for an SBIR/STTR grant:

Eligibility

- ☐ Is your company a startup or small business with 500 or fewer employees (including affiliates)?
- ☐ Is your company or startup U.S. based?
- ☐ Is your company independently owned and operated?
- ☐ Is your company a for-profit entity?
- ☐ Is your company at least 51 percent owned and controlled by one or more individuals who are citizens of, or permanent resident aliens in the United States?
- ☐ If your company has received numerous SBIR/STTR Phase I or Phase II awards (across all agencies), does your company meet the Performance Benchmarks?

Good Fit (Funding Philosophy)

- ☐ Is your technology-based solution highly innovative? Never been attempted or successfully achieved before?
- ☐ Would your proposed product or service have the potential to disrupt the targeted market segment? Create significant commercial impact and/or societal benefit?
- ☐ Are technical hurdles stopping or slowing the commercialization of your technology?

If you answered "Yes" to all of the eligibility requirements but are not certain about the fit of your technology/company, you may submit a 1-2 page executive summary to sbir@nsf.gov or a specific Program Director. To learn more about the summary requirements and executive summary pre-submission feedback process, visit the "Is NSF SBIR/STTR a Good Fit" website.

TOPIC AREAS

There are currently ten proposal topic areas with over 90 different subtopics. Please note that these topics are continuously updated to include new technological areas and are NOT exhaustive.

- Educational Technologies and Applications
- Information Technologies
- Internet of Things
- Semiconductors and Photonic Devices and Materials
- Electronic Hardware, Robotics and Wireless Technologies
- Advanced Manufacturing and Nanotechnology
- Advanced Materials and Instrumentation
- Chemical and Environmental Technologies
- Biological Technologies
- Smart Health and Biomedical Technologies

HOW DO I APPLY?

The NSF SBIR/STTR proposal submission deadlines are generally in early June and December. To help in the application process there are multiple online resources that include a YouTube channel and a preparation booklet that provides a detailed step-by-step guide to assist applicants through the Phase I proposal submission process. It is recommended that applicants register for Online Q & A Sessions hosted by Program Directors to familiarize themselves with the submission process. The process begins with a proposer registering on *all* the following sites:

- Dun and Bradstreet Data Universal Numbering System (DUNS)
- System for Award Management (SAM)
- Small Business Administration (SBA) Company Registry
- NSF FastLane

The NSF SBIR/STTR program offers a variety of unique resources and tools to help potential applications during the solicitation process:

- *FastLane Guide:* The NSF FastLane system is an online portal that NSF uses to connect with potential researchers, current researchers, research administrators/organizations, and reviewers. The

FastLane Preparation Booklet provides step-by-step instruction with images to facilitate the Phase I proposal submission process.

- *Budget Prep:* Detailed documentation of all budget line items is required and must be documented on the budget justification page within the submission area. For budget preparation information and templates please visit the Budget Preparation & Revisions website.
- *Budget Tips:* The following are general rules applicants should follow while developing their budget.
    - Don't submit a total budget request exceeding the allowable amount:
        - $150,000 (SBIR)
        - $225,000 (STTR)
    - If partners will be involved, follow the budget allocation rules:
        - SBIR: Funds dedicated to subawards and consultants should make up less than 1/3 of the total budget.
        - STTR: There must be a subaward to a research institution, and it should make up at least 30 percent of the budget; the small business (total budget minus subawards and consultants) should make up at least 40 percent of the budget.
    - Complete the budget justification section in FastLane (explain each budget line).
    - Generally, the budget should be reasonable and reflect what the team needs to complete the proposed R&D to prove feasibility, which is most often a mix of materials/supplies, salaries, and, in certain circumstances, a subaward/contract or fee-for-service activities (e.g., testing service) for work that will be completed by others.

SBIR & STTR PROPOSAL CHECKLIST*

- ☐ Project Summary
- ☐ Project Description
- ☐ References Cited
- ☐ Current & Pending Support
- ☐ Biographical Sketches
- ☐ Facilities, Equipment, and other Resources
- ☐ Budget
- ☐ Supplementary Documents

*The above checklists are overviews. Please review the official online SBIR proposal checklist and STTR proposal checklist for a detailed breakdown of all requirements.

SOLICITATION PERIOD

Deadline: Proposals are typically due in early December and June, and solicitations are published at least 90 days before the deadline date. Proposals submitted after 5 p.m. on the deadline date will be returned without review. Applicant's local time is defined as the time zone associated with the company's address registered with NSF at the time of proposal submission.

Who are the Program Directors? The NSF SBIR/STTR Program Directors manage the merit review process and then recommend which proposals should be awarded. They have technical and commercial expertise and help hundreds of small businesses and startups every year.

Communication with an SBIR/STTR Program Director: For each main topic, Program Directors serve as points of contact to help and mentor applicants during the application process. An applicant may choose to communicate with an SBIR/STTR Program Director before preparing a proposal to help gauge whether proposed R&D meets the program's intellectual merit and commercial impact criteria. Applicants may email the Program Director associated with the topic that most closely matches the proposed research. The contact information for each Program Director is listed on their topic page (see http://www.nsf.gov/eng/iip/sbir/topics.jsp for a list of topics). The email should consist of a 1-2 page executive summary discussing the following aspects of the project.

- The company/team
- Market opportunity
- Value proposition
- Potential customers
- Technology/innovation
- Competition

Due to time constraints, Program Directors will only be able to respond to executive summaries received at least two weeks before the solicitation deadline. For additional assistance, you may email sbir@nsf.gov.

REVIEW FOR INTELLECTUAL MERIT AND BROADER / COMMERCIAL IMPACTS

Review Criteria: For SBIR/STTR Phase I, reviewers examine proposals for Intellectual Merit and Broader/Commercial Impact:

Intellectual Merit

- The innovation
- Company/team
- R&D plan

Broader/Commercial Impact

- Market opportunity
- Company/team
- Product/technology and competition
- Any potential for additional societal benefits

Commercialization: During the Phase I review process, broader/commercial impact must be demonstrated. Commercialization goals and capabilities are set forth that may or may not change during the course of a Phase I award. During the Phase II review process, broader/commercial impact is evaluated through a Commercialization Plan, which lays out not only the commercialization goals and capabilities, but also the detailed plan for how the team will reach these goals.

The exact review criteria can be found in the Peer Review Guidelines.

Review Process: The NSF SBIR/STTR Program recruits technical and commercial experts from around the country to confidentially evaluate the technology, commercial potential, and team proposed in the Phase I applications. Many companies receiving NSF SBIR/STTR funding leverage this NSF stamp of approval on the road to commercial success.

Review Timeline: For Phase I, NSF aims to inform proposers of decline or award within 6 months of the deadline date. However, before that time, proposers may be contacted by the Program Director for more information in response to questions that the review panel has posed. The start date for Phase I awards has typically been January 1 (for June submissions) and July 1 (for December submissions).

Debriefing on Unsuccessful Proposals: When a proposal is declined, anonymous copies of written reviews, summaries of review panel deliberations, and a description of the process by which the proposal was reviewed will be available electronically. Phase I proposals that have been declined or returned without review by NSF are not eligible for reconsideration under the same program solicitation. However, proposals may be resubmitted under a subsequent solicitation after substantive revisions have been made.

EXAMPLE SUCCESS STORIES

In 2008 Deb Roy and Michael Fleischman created Bluefin Labs, which developed computer algorithms to analyze the context of words. The algorithms could connect social media comments back to the events, people, products, brands and viewing contexts that prompted the writers to express their comments in the first place. They applied this approach to systematically and at scale analyze the real-time social media response to television broadcasts. Bluefin had over 100 of the world's largest advertisers and TV networks as clients including P&G, Nike, CBS, and Fox.

Seed funding was generated from the NSF Small Business Innovation Research Program (SBIR), with two grants totaling about $1.1 million. Part of the award came from NSF's funding under the American Recovery and Reinvestment Act of 2009. In 2013 Twitter acquired Bluefin Labs for $100 million.